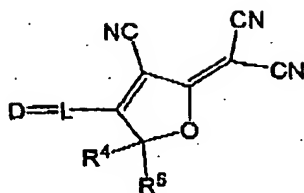


WHAT WE CLAIM IS:

1. A compound of the general Formula I:

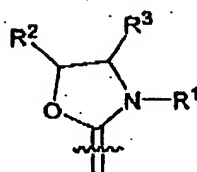
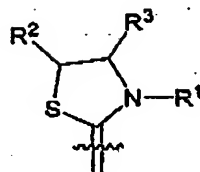
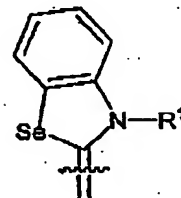
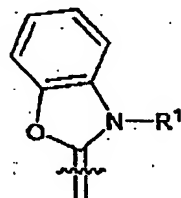
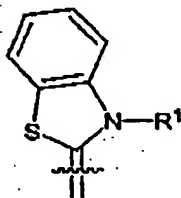
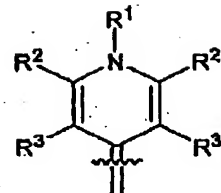
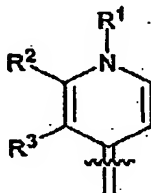
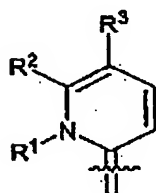
5



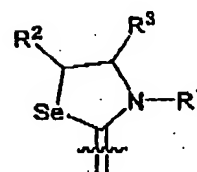
wherein:

D is selected from the group comprising:

10



and



and wherein:

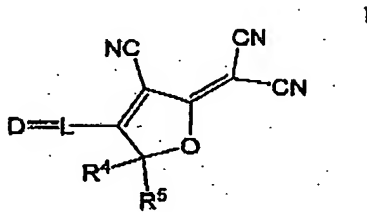
R^1 is alkyl or hydroxyalkyl;

R^2 and R^3 are H, or together with the carbon atoms to which they are attached form a 6-membered aromatic ring;

L is a linking group comprising an optionally substituted chain of 3, 5 or 7 carbon atoms which, together with the double bond linking D to L forms a conjugated polyenic chain; and

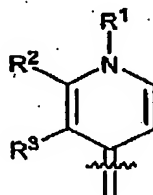
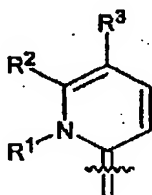
R^4 and R^5 are independently alkyl, hydroxyalkyl or $p\text{-C}_6\text{H}_4\text{-OAc}$.

2. A compound of the general Formula I:

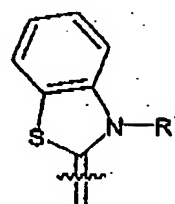


wherein:

D is selected from the group comprising:



and.



and wherein:

R^1 is alkyl or hydroxyalkyl;

R^2 and R^3 are H, or together with the carbon atoms to which they are attached form a 6-membered aromatic ring;

L is a linking group comprising an optionally substituted chain of 3, 5 or 7 carbon atoms which, together with the double bond linking D to L forms a conjugated polyenic chain; and

R^4 and R^5 are independently alkyl, hydroxyalkyl or *p*-C₆H₄-OAc.

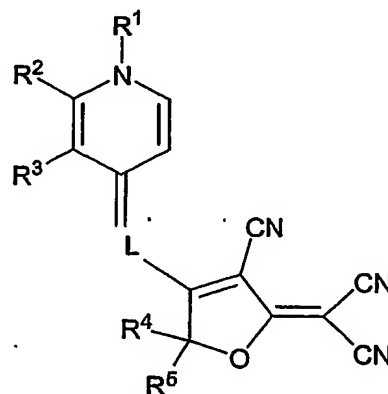
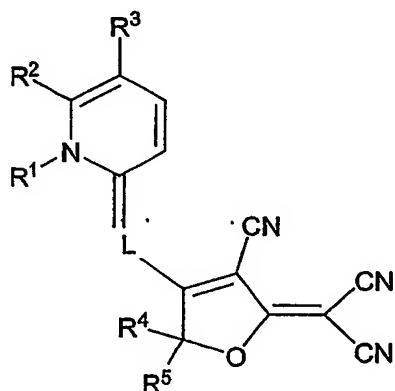
3. A compound of claim 1 or claim 2 wherein L is an optionally substituted chain of 3 or 5 carbon atoms which, together with the double bond linking D to L forms a conjugated polyenic chain.

4. A compound of claim 3 wherein R^1 is dihydroxyalkyl.

5. A compound of any preceding claim wherein R^2 and R^3 together with the carbon atoms to which they are attached form a 6-membered aromatic ring;

6. A compound of any preceding claim wherein R^4 and R^5 are independently alkyl or hydroxyalkyl.

7. A compound according to formula I, represented by



wherein:

R^1 is CH_3 , CH_2CH_2OH , $CH_2CH(OH)CH_2OH$ or alkyl chain of up to 30 carbon atoms;

R^2 and R^3 are H, or together with the carbon atoms to which they are attached form a 6-membered aromatic ring;

one of R^4 or R^5 is hydroxyalkyl; and

L is an optionally substituted chain of 5 carbon atoms which, together with the double bond linking D to L forms a conjugated polyenic chain.

8. A compound of claim 7 wherein R_1 is dihydroxyalkyl.

9. A compound selected from the group comprising:

[4{2-(*N*-Methylpyridin-4(1*H*)-ylidene)ethenyl}-3-cyano-5,5-dimethyl-2(5*H*)furanylidene}]-propanedinitrile;

[4{4-(*N*-Methylpyridin-4(1*H*)-ylidene)-1,3-butadienyl}-3-cyano-5,5-dimethyl-2(5*H*)furanylidene]propanedinitrile;

[4{6-(*N*-Methylpyridin-4(1*H*)-ylidene)-1,3,5-hexatrienyl}-3-cyano-5,5-dimethyl-2(5*H*)furanylidene]propanedinitrile;

{4{2-[*N*-(2,3-Dihydroxypropyl)pyridine-4(1*H*)-ylidene]ethenyl}-3-cyano-5,5-dimethyl-2(5*H*)-furanylidene}'propanedinitrile;

{4{4-[(2,3-Dihydroxypropyl)pyridin-4(1*H*)-ylidene]-1,3-butadienyl}-3-cyano-5,5-dimethyl-2(5*H*)-furanylidene}'propanedinitrile;

[4{2-(*N*-Methylpyridin-2(1*H*)-ylidene)ethenyl}-3-cyano-5,5-dimethyl-2(5*H*)furanylidene]propanedinitrile;

- [4{4-(*N*-Methylpyridin-2(1*H*)-ylidene)-1,3-butadienyl}-3-cyano-5,5-dimethyl-2(5*H*)-
furanylidene]propanedinitrile;
- 5 [4{6-(*N*-Methylpyridin-2(1*H*)-ylidene)-1,3,5-hexatrienyl}-3-cyano-5,5-dimethyl-2(5*H*)-
furanylidene]propanedinitrile;
- '{4{2[*N*-(2,3-Dihydroxypropyl)pyridin-2(1*H*)-ylidene]ethenyl}-3-cyano-5,5-dimethyl-2(5*H*)-
furanylidene}'propanedinitrile;
- 10 '{4{4-[*N*-(2,3-Dihydroxypropyl)pyridin-2(1*H*)-ylidene]-1,3-butadienyl}-3-cyano-5,5-
dimethyl-2(5*H*)-furanylidene}'propanedinitrile;
- '{4{2-[*N*-(2-Hydroxyethyl)quinolin-4(1*H*)-ylidene]ethenyl}-3-cyano-5,5-dimethyl-2(5*H*)-
furanylidene}'propanedinitrile;
- 15 '{4{4-[*N*-(2-Hydroxyethyl)quinolin-4(1*H*)-ylidene]-1,3-butadienyl}-3-cyano-5,5-dimethyl-
2(5*H*)-furanylidene}'propanedinitrile;
- '{4{6-[*N*-(2-Hydroxyethyl)quinolin-4(1*H*)-ylidene]-1,3,5-hexatrienyl}-3-cyano-5,5-dimethyl-
2(5*H*)-furanylidene}'propanedinitrile;
- 20 ""{4-""{2-""{3-""{2-[*N*-(2-Hydroxyethyl)quinolin-4(1*H*)-ylidene]-ethylidene}-2-chloro-1-
cyclohexen-1-yl}'-*E*-ethenyl}""-3-cyano-5,5-dimethyl-2(5*H*)-furanylidene}""
propanedinitrile;
- 25 '{4{2-[*N*-Methylquinolin-2(1*H*)-ylidene]ethenyl}-3-cyano-5,5-dimethyl-2(5*H*)-
furanylidene}'propanedinitrile;
- '{4{4-[*N*-Methylquinolin-2(1*H*)-ylidene]-1,3-butadienyl}-3-cyano-5,5-dimethyl-2(5*H*)-
furanylidene}'propanedinitrile;
- 30 '{4{6-[*N*-Methylquinolin-2(1*H*)-ylidene]-1,3,5-hexatrienyl}-3-cyano-5,5-dimethyl-2(5*H*)-
furanylidene}'propanedinitrile;

'{4-{2-[*N*-(2-hydroxyethyl)benzothiazol-2(3*H*)-ylidene]-ethenyl}-3-cyano-5,5-dimethyl-2(5*H*)-furan-2-ylidene}'propanedinitrile;

'{4-{4-[*N*-(2-hydroxyethyl)benzothiazol-2(3*H*)-ylidene]-1,3-butadienyl}-3-cyano-5,5-dimethyl-2(5*H*)-furan-2-ylidene}'propanedinitrile;

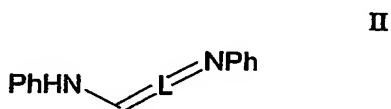
'{4-{6-[*N*-(2-hydroxyethyl)benzothiazol-2(3*H*)-ylidene]-1,3,5-hexatrienyl}-3-cyano-5,5-dimethyl-2(5*H*)-furan-2-ylidene}'propanedinitrile;

'{4-{4-[*N*-(2-hydroxyethyl)benzothiazol-2(3*H*)-ylidene]-1,3-butadienyl}-5-(4-acetoxyphenyl)-3-cyano-5-methyl-2(5*H*)-furan-2-ylidene}'propanedinitrile; and

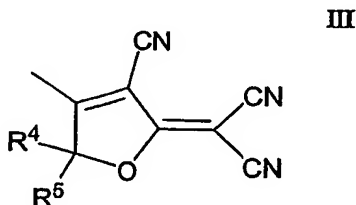
'{4-{2-{3-{2-[*N*-(2-hydroxyethyl)benzothiazol-2(3*H*)-ylidene]ethenyl}-2-chloro-1-cyclohexen-1-yl}'-*E*-ethenyl}'-3-cyano-5,5-dimethyl-2(5*H*)-furan-2-ylidene}'propanedinitrile.

10. A method of preparing a compound of Formula I comprising:

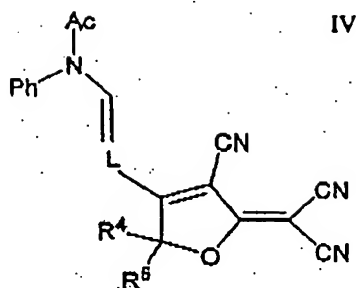
(a) reacting a compound of Formula II:



wherein L is defined in claim 1, with a compound of Formula III:

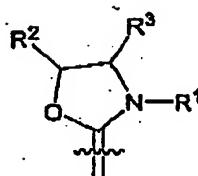
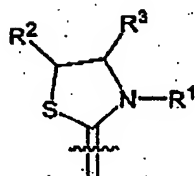
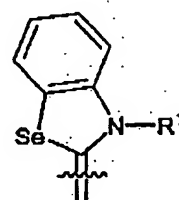
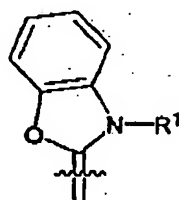
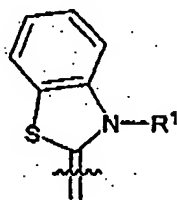
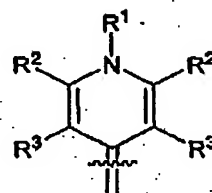
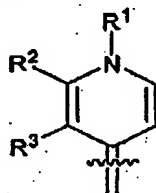
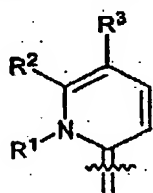


wherein R⁴ and R⁵ are as defined in claim 1, to form a compound of Formula IV:

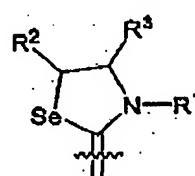


5

(b) reacting the compound of Formula IV from step (a) with a donor compound to form a compound of Formula I, wherein the donor compound bears a donor group selected from the group comprising:



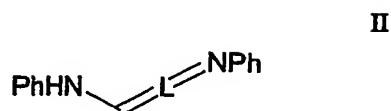
and



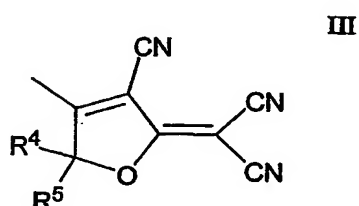
10

11. A method of preparing a compound of Formula I comprising:

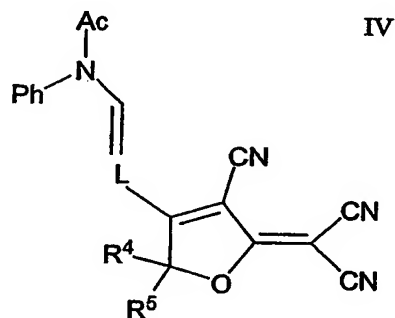
(a) reacting a compound of Formula II:



wherein L is defined in claim 1, with a compound of Formula III:

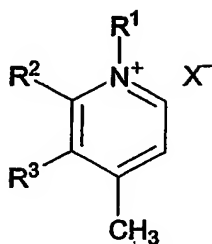


wherein R⁴ and R⁵ are as defined in claim 1, to form a compound of Formula IV:

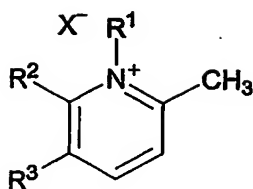


(b) reacting the compound of Formula IV from step (a) with an azinium or azolium donor derivative of Formula V, VI, or VII, where X is halogen and R¹, R², R³ are defined in claim 1, to form a compound of Formula I.

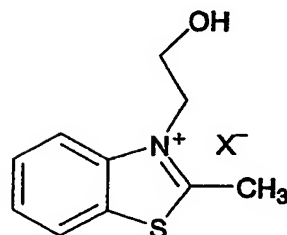
44



V



VI



VII

12. A composite material prepared from a polymerisation mixture comprising

- 5 (c) a compound of formula I or a derivative thereof; and
(d) at least a further polymerisable material.

13. A composite material of claim 11 comprising a modified polyurethane, polycarbonate, polyamic acid polyimide, or a mixture thereof, which includes substituents derived from a
10 compound of formula I.

14. An optoelectronic device comprising the composite material of claim 12 or claim 13.

15. A method of data transmission comprising transmitting light through a composite material
15 of claim 12 or claim 13.